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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,828	07/05/2006	Hirokazu Tanaka	15115/182001	7880

22511 7590 01/31/2007  
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HOUSTON, TX 77010

EXAMINER
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LEPISTO, RYAN A

ART UNIT	PAPER NUMBER
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2883

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/566,828

Applicant(s)

TANAKA ET AL.

Examiner

Ryan Lepisto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/31/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-5, 7-12 and 14-16** are rejected under 35 U.S.C. 102(b) as being anticipated by **Wu et al (US 2002/0057868 A1)** (Wu). Wu teaches a variable optical attenuator (Figs. 6-8, paragraphs 0037-0042) a one piece housing (302) comprising a plurality of consistently spaced (pitched) optical transmission lines (fibers, 304a-g) optically coupled with at least a part of luminous flux coming out of one line is coupled to other line, a plurality of optical returning components (310a-c) that returns light from different lines, a plurality of rotating (varying angle) light transmissive members (309a-g) (paragraph 0039) arranged in each path of each line and between the returning components (310a-c) and the lines so that the lines are coupled so as to change the angle of the path of the luminous flux of a line (paragraph 0040) that rotates on a shaft of an actuator of a base (316) oriented in a direction vertical to a plane the lines lie in (paragraph 0039), collimating lens (308) that control incoming and outgoing luminous flux disposed at the end face of each line (304a-g). Wu further teaches (Fig. 8) an embodiment wherein each line (304a-d) are parallel to each other so that luminous flux passing through the transmissive elements (309a-d) going in and out in parallel planes

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with the first embodiment (Fig. 5) the luminous flux passes through the transmissive elements (309a-g) in a bent face tilted manner.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu as applied to claims 1-5, 7-12 and 14-16 above, and further in view of **Stewart (US 4,569,569)**.

Wu teaches the attenuator previously discussed.

Wu does not teach expressly a monitor module that senses an attenuation of luminous flux that comes out of one the lines.

Stewart teaches an optical attenuator (Fig. 1) similar to Wu with optically transmissive lines (1) coupled to a lens (2) that is coupled to a V-shaped reflector (18) that reflects luminous flux from one line to another just as Wu teaches. Stewart further teaches that known couplers, switches, and other devices use such lenses and reflectors to move luminous flux from a fiber to another fiber (as in Wu) or "of course a source or detector" (column 1 lines 9-15).

Stewart and Wu are analogous art because they are from the same field of endeavor, optical couplers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the teaching of Stewart that it is known in such couples to substitute a detector in place of line to monitor light from another line to modify the attenuator taught by Wu.

The motivation for doing so would have been to detector any errors or misalignment in the coupling of the luminous flux so as to be able to correct any of these defects.

***Allowable Subject Matter***

**Claim 13** (includes the limitations of claim 1, 11 and 13) is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: This claim would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims because the latter, either alone or in combination, does not disclose nor render obvious a variable optical attenuator having a pair of parallel transmission lines optical coupled wherein the luminous flux coming out of one line is coupled to the other, an optical component that returns and couples the flux coming out of one line, a light

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transmissive member arrange in a path to change the angle of the coupling disposed between each of the lines and the returning component wherein the flux coming out of one line passes through twice the light transmissive member, in combination with the rest of the claimed limitations.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al (US 2003/0081885 A1) teaches an attenuator that at least reads on claim 1.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-Th 7:30 AM - 5:30 PM.

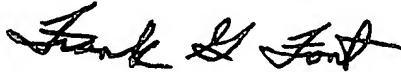
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ryan Lepisto  
Art Unit 2883  
Date: [REDACTED]



Frank Font  
Supervisory Patent Examiner  
Technology Center 2800